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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,711	12/30/2003	Martin Brox	1890-0030	2105

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EXAMINER

LUU, AN T

ART UNIT PAPER NUMBER

2816

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9-11-06 has been entered.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15, 16, 19-21 and 34-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 15, the limitation “**a frequency detection unit having an output signal**” (emphases added), lines 12-13, and the limitation “**a frequency detection unit configured to generate the set signal**” (emphases added) appear to refer the same entities, respectively.

As to claim 35, it has the same problem as noted above.

Claims 16, 19-21, 34 and 36-38 are rejected for being dependent on the rejected claim as noted above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15, 19-22, 25-26, 34 and 36-38, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over the Miyamoto reference (US Patent 6,586,978) in view of the Dortu et reference (US Patent 6,229,364).

Miyamoto discloses in figure 10 an apparatus comprising a delay device comprising a first delay element 403 and a second delay element 402, wherein the first delay element is configured to generate a first output D responsive to a control signal (output of 407) and a first input C, and wherein the second delay element is configured to generate the first input responsive to the externally generated clock signal CLK and a set signal (output of 405) related to the frequency of the externally generated clock signal, a feedback device (404, 406) operably connected to the first delay element and configured to generate a time delayed first output B, the feedback device operable to delay the first output by an amount substantially equal to a receiver time delay d2 plus a driver time delay d1, a phase difference detection 407 device configured to generate signal responsive to the phase difference between the time delayed first output and the externally generated clock signal, and a frequency detection 405 unit configured to generate the set signal responsive to the frequency of the externally generated clock signal as required by claim 15. As to amendment portion of claim 15, figure 12 of Miyamoto discloses details of the second delay element 402 including different second delay elements (i.e., 412s) in discrete steps

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(i.e., delayed signal tapped out at each delay unit, pair of inverters) for different frequency ranges, at least one second delay element (i.e., delay unit providing the fourth output) being for low frequencies (i.e., long delay) of the externally generated clock signal and at least one further second delay element (i.e., delay unit providing the first output) being for high frequencies (i.e., short delay) of the externally generated clock signal; and the limitation “*wherein the second delay element for low frequencies and the further second delay element for high frequencies are switched over for different frequency ranges of the externally generated clock signal*” is seen as operation function of a variable delay section in which output of the detection circuit is for adjusting delay element of the second delay as a function of the frequency of the first input CLK, col. 15, lines 34-38 and col. 16, lines 24-26.

Miyamoto does not disclose the second delay element comprises a low frequency delay element for lower frequencies of the externally generated clock signal and a high frequency delay element for higher frequencies of the externally generated clock signal, wherein the low frequency delay element and the high frequency delay element are configured for operation at different frequency ranges of the externally generated clock signal.

Dortu discloses in figure 9 and associated description a delay circuit 400 permitting delaying both low and high frequency ranges of an externally generated clock signal IN. It is noted that the limitation “*wherein the low frequency delay element and the high frequency delay element are configured for operation at different frequency ranges of the externally generated clock signal*” is seen as operational characteristic and/or result derived from the above delay circuit.

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It would have been obvious to one skilled in the art at the time the invention was made to replace a Miyamoto's delay circuit with a delay circuit taught by Dortu since Dortu's delay circuit would improve operational frequency ranges in Miyamoto's invention.

As to claim 19, figure 5 discloses the delay device comprising a controllable variable capacitor element (i.e., 54a controlled by 53a).

As to claims 20 and 21, figure 3 discloses the delay device comprising a controllably variable current inverter 31 and 32. It is noted that inverters 1 and 32 are in chain connection.

As to claims 22 and 25-26, they are rejected for reciting a method derived from the apparatus of claim 15 which is rejected as noted above.

As to claim 34, figure 10 shows the frequency detection unit 405 is operable to generate the set signal independent of the first output signal.

As to claims 36-38, the scopes of these claims are similar to that of claims 19-21. Therefore, they are rejected for the same reason set forth above.

5. Claims 16, 28 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Miyamoto reference (US Patent 6,586,978) in view of the Dortu et reference (US Patent 6,229,364) and further in view of the Li et al reference (US Patent 6,208,183).

The combination of Miyamoto and Dortu discloses a delay locked loop comprising all the claimed invention except for teaching a filter circuit coupled between the phase detector and the delay element as required by claim 16.

Li discloses in figure 2 a delay locked loop 100 comprising a filter circuit 106 coupled between the phase detector 102 and the delay element 110 as required by the claim.

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It would have been obvious to one skilled in the art at the time the invention was made to incorporate the teaching of filter in Li into the combination of Miyamoto and Dortu since the filter would remove out-of-band and/or interfering signals.

As to claims 28 and 35, the scopes of these claims are similar to that of claim 16. Therefore, they are rejected for the same reason set forth above.

Response to Arguments

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to An T. Luu whose telephone number is 571-272-1746. The examiner can normally be reached on 7:30-5:00.

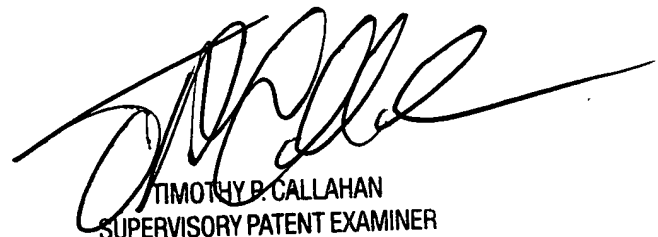
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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An T. Luu

9-15-06 *AK*



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